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EXECUTIVE SUMMARY OF THE NATIONAL COMMUNICATION OF

MONACO

submitted under articles 4 and 12 of the
United Nations Framework Convention on Climate Change

In accordance with decision 9/2 of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC/FCCC), the interim secretariat is to make available, in the official languages of the United Nations, the executive summaries of the national communications submitted by annex I Parties.

Note: Executive summaries of national communications issued prior to the first session of the Conference of the Parties bear the symbol A/AC.237/NC/...

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Copies of the national communication of Monaco may be obtained from the following address:

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Introduction

1. The Principality of Monaco has acceded to the United Nations Framework Convention on Climate Change, concluded in New York on 9 May 1992, which it has also ratified (Royal Order No. 11.260 of 9 May 1994).

General policy and measures adopted pursuant to the Convention

2. Since 1991 the Principality of Monaco has implemented a comprehensive policy to combat air pollution, including direct and indirect restrictions on greenhouse gas emissions, by means of the following measures:

(a) The adoption of legislative instruments designed to limit air pollution (Royal Order No. 10.571 of 9 June 1992 on measures to combat air pollution from fixed installations and Royal Order No. 10.689, of 22 October 1992 on measures to combat air pollution caused by land vehicles).

(b) The installation of scrubbers (wet lime-slurry scrubbers) at its household waste incineration plant, which complement the electrostatic precipitator systems and which have, specifically reduced discharges of hydrochloric acid from 600 mg/Nm^3 to approximately 1 mg/Nm^3. In December 1993 and June 1994 authorized agencies measured pollutants in the plant's gaseous emissions in order to check the efficiency of the purification systems.

(c) The introduction of an air pollution monitoring network, which currently comprises five monitoring stations located at points selected for their representativeness, i.e.:

(i) One station in a street with heavy traffic;

(ii) Three stations at locations affected to varying degrees by road traffic;

(iii) One benchmark station in a location hardly affected by traffic (a public park close to the sea).

3. This completely automated network of monitoring stations permits continuous monitoring of fluctuations in the atmospheric concentration of several pollutants, some of which are precursors of greenhouse gases, namely:

Nitrogen dioxide and nitric oxide (NO_x)

Carbon monoxide (CO)

Ozone (O_3)

Sulphur dioxide (SO_2)

Atmospheric dust.

4. The results of the measurements are transmitted to a central station equipped with a powerful computer, which in particular allows the

concentrations measured to be compared with conventional meteorological parameters and with the traffic data available.

5. The public is regularly informed of the results of the measurements through the local press and television, to which the average concentrations recorded are transmitted each day, and compared with air quality norms which are stricter than current European ones.

6. A vehicle technical testing centre has been established where it is possible, inter alia, to check the opacity of exhaust gases and their carbon monoxide content using standard methods. If the carbon monoxide content of exhaust gases is higher than 4.5 per cent by volume, or if their opacity exceeds a limit based on the vehicle's category, the vehicle's owner is required to have the necessary adjustments made within a fortnight after the infringement is noted.

7. Increased use of electric vehicles: in 1990 the Principality joined the European Association of Cities Interested in the Use of Electric Vehicles (CITELEC), and its Government endeavours as far as possible to assign electric vehicles to public services.

8. Measures to increase public awareness: in 1993 the departments concerned carried out two public awareness campaigns to convince the Principality's inhabitants of the drawbacks of using private vehicles in town and encourage them to use public transport. Attention was also drawn to the health benefits of walking. In March 1993 a brochure was published on the topic and widely distributed among the population. In October 1993 an "Environment Day" was organized. The buses were free on the day and an exhibition of two-wheeled electric vehicles generated keen public interest. The Monaco International Fair in October 1994 provided another opportunity to present electric vehicles successfully to the public.

Assessment of greenhouse gas emissions and eliminations

9. In conformity with the recommendations of the Intergovernmental Panel on Climate Change, the greenhouse gases to be studied as a matter of priority are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).

10. Where CO_2 emissions are concerned, the main sources of pollution in Monaco are gaseous effluents from the household waste incineration plant and automobile traffic. CO_2 is also released by domestic and public heating. However, as the Principality enjoys an exceptionally mild winter climate, CO_2 emissions from heating should be extremely limited. As there are no cement works or other heavy industries in Monaco, other sources of CO_2 may be considered negligible.

11. It is hard to quantify CO_2 emissions from mobile sources, i.e. vehicle engines. Emissions depend on the type of engine (petrol or diesel), the carburettor setting and the engine temperature. In Monaco, automobile traffic is essentially urban, and consequently involves a large number of cold starts and short journeys during which engines fail to warm up.

12. However, it is possible to quantify emissions from fixed sources such as Monaco's household waste incineration plant. For a number of years the plant's emissions of CO_2, CO, H_2O, NO, SO_2 and HCl have been continuously

monitored. As the volume of gaseous discharges is known, it has been possible to estimate the amount of carbon dioxide (CO_2) released by the plant at approximately 70,500 tonnes per year (70.5 Gg per year) since the installation of the scrubbers.

13. No data are currently available in Monaco on the possibility of eliminating carbon dioxide naturally. The proximity of the sea, the provision of numerous public parks and the presence of wooded areas on the mountains overlooking the western part of Monaco, where the incineration plant is located, probably mean that natural elimination of carbon dioxide in the immediate vicinity of the Principality is far from negligible.

14. Where other greenhouse gases (CH_4 and N_2O) are concerned, there are currently no data in Monaco on emissions or on the possibility of eliminating them. However, in view of the absence of an oil industry and intensive agriculture, it may be assumed that emissions of these gases are negligible on a world scale.

Projections for the future

15. In the light of Monaco's economic and demographic prospects in the coming years, emissions of CO_2 from its incineration plant are unlikely to increase significantly between now and the year 2000. Emissions of CO_2 from motor vehicles are likely to fall significantly on account of the various measures taken in this respect, which are described above. Emissions of methane (CH_4) and nitrous oxide (N_2O) should remain negligible.